Putting It All Together With Microsoft Excel and Word

In this math project you and your partner are to investigate a question. Below is a list of possible investigation topics. You are to gather data, either by taking a survey of people, or by using the World Wide Web. Your data is to be organized in a spreadsheet of your design using Microsoft Excel 2000. Again, using Excel, you are to create an appropriate chart from your spreadsheet to show the results of your investigation. You are to integrate your Excel spreadsheet and chart into a multi-page, written report in Microsoft Word.

1. And the Winner Is

Who is the favorite musical group or performer in your school? Ask at least 25 students in your school to name their favorite musical group or performer. Limit the choices to seven or eight.

1. Write a statement of the problem.
2. Make a hypothesis of what you think the answer to the question will be.
3. Take a survey of your class giving them 7-8 choices.
4. Organize your data into a spreadsheet using Excel.
5. Use a formula or a function to get the sum of the votes.
6. Format to create an attractive spreadsheet and to make the question and the answer stand out.
7. Create an appropriate chart to represent your data.
8. Format to create an attractive chart, and to make the results of your investigation stand out.
9. Write a summary of your conclusions.

2. Data Duels

What is the favorite hobby in your school? Ask at least 25 students in your school to name their favorite hobby. Limit the choices to seven or eight different pastimes. Some choices may include reading, exercise, shopping, and dancing.

1. Write a statement of the problem.
2. Make a hypothesis of what you think the answer to the question will be.
3. Take a survey of your class giving them 7-8 choices.
4. Organize your data into a spreadsheet using Excel.
5. Use a formula or a function to get the sum of the votes.
6. Format to create an attractive spreadsheet and to make the question and the answer stand out.
7. Create an appropriate chart to represent your data.
8. Format to create an attractive chart, and to make the results of your investigation stand out.
9. Write a summary of your conclusions.

3. Ups and Downs

Is there a big difference in the high and low temperatures in a city? Using the World Wide Web, select a city and record the high and low temperatures for each day for one week. Decide what city you will use: Tokyo, Chicago, Rio de Janeiro...

1. Write a statement of the problem.
2. Make a hypothesis of what you think the answer to the question will be.
3. Collect the temperature data using the W.W.W.
4. Organize your data into a spreadsheet using Excel.
5. Using formulas, calculate the mean high and mean low temperature for the week.
6. Format to create an attractive spreadsheet and to make the question and the answer stand out.
7. Create an appropriate, chart to represent your data.
8. Format to create an attractive chart, and to make the results of your investigation stand out.
9. Write a summary of your conclusions.

4. Science Fiction Films

How long is the average science fiction film? Using the World Wide Web, record the names and the lengths in minutes of 20 science fiction movies.

1. Write a statement of the problem.
2. Make a hypothesis of what you think the answer to the question will be.
3. Collect the movie length data using the W.W.W.
4. Organize your data into a spreadsheet using Excel.
5. Using formulas or functions, calculate the mean, median and mode film length.
6. Format to create an attractive spreadsheet and to make the question and the answer stand out.
7. Create an appropriate, chart to represent your data.
8. Format to create an attractive chart, and to make the results of your investigation stand out.
9. Write a summary of your conclusions.
5. As Easy As Pie

What is the favorite pie in your school? Ask at least 25 students in your school to name their favorite type of pie. Limit the choices to seven or eight different pies. For choices, go to www.mariecalendars.com.

1. Write a statement of the problem.
2. Make a hypothesis of what you think the answer to the question will be.
3. Take a survey of your class giving them 7-8 choices.
4. Organize your data into a spreadsheet using Excel.
5. Use a formula or a function to get the sum of the votes.
6. Format to create an attractive spreadsheet and to make the question and the answer stand out.
7. Create an appropriate chart to represent your data.
8. Format to create an attractive chart, and to make the results of your investigation stand out.
9. Write a summary of your conclusions.

### Project Rubric

<table>
<thead>
<tr>
<th>Description</th>
<th>Points Possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attractive Title Page</td>
<td>0-4</td>
</tr>
<tr>
<td>WordArt Title, Picture and Heading</td>
<td></td>
</tr>
<tr>
<td>Attractive Table of Contents</td>
<td>0-4</td>
</tr>
<tr>
<td>Title and Tabbed Columns, Leaders, and Picture</td>
<td></td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>0-4</td>
</tr>
<tr>
<td>Investigation Question, Hypothesis and Procedures</td>
<td></td>
</tr>
<tr>
<td>Headers/Footers</td>
<td>0-4</td>
</tr>
<tr>
<td>Spreadsheet—Correct Set-up of Labels, Data, and Math</td>
<td>0-4</td>
</tr>
<tr>
<td>Spreadsheet—Formatting</td>
<td>0-4</td>
</tr>
<tr>
<td>Does the question and answer stand out?</td>
<td></td>
</tr>
<tr>
<td>Graph</td>
<td>0-4</td>
</tr>
<tr>
<td>Correct Representation of Data.</td>
<td></td>
</tr>
<tr>
<td>Graph—Formatting</td>
<td>0-4</td>
</tr>
<tr>
<td>Do the results of your investigation stand out?</td>
<td></td>
</tr>
<tr>
<td>Summary of Investigation</td>
<td>0-4</td>
</tr>
<tr>
<td>What did you learn? Was your hypothesis correct? Were their any surprises?</td>
<td>0-4</td>
</tr>
<tr>
<td>Project Design—Repetition, contrast, alignment, proximity</td>
<td>0-4</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
</tr>
</tbody>
</table>
Starting Your Excel Report In Word

Instead of printing one page, you are going to produce a six-page report. The first page of the report is the cover. The second page is the table of contents. The third page is the statement of the problem, your hypothesis, and the procedures you are going to use. The fourth and fifth pages are for your Excel spreadsheet and Excel chart, and the sixth page is for your summary. All of the pages, except for the cover will have will have a header and footer on them.

Before you begin, make the following choices and stick to them.

1. With your partner, select one of the five investigations that interest you.
2. Read over what the investigation is about before you begin the next step.
3. Decide on a title **Font Type, Font Size and Color and Effects**. Be **consistent**—stick to your choices throughout the project.
4. Decide on a **contrasting text Font Type, Font Size, and Color**. Be **consistent**—stick to your choices throughout the project.

Setting-up the Report in Microsoft Word

5. Start Microsoft Word.
6. You are now on Document1.
7. Click the Show/Hide button so you can see spaces and paragraph marks.
8. Click the Maximize button to enlarge the window.

Saving a Document

**Document1** has not been saved with a name.

9. Press **Ctrl+S**. The Save dialog box appears.

10. To the right of the Save in text box, click the drop-down arrow and select your period folder.
11. In the File name text box, a suggested file name should be highlighted.
12. Replace this filename by typing **Excel Project**, press **Spacebar**, type your initials, press **Spacebar**, and type your partner’s initials.
13. Click **Save** or press **Enter**.

Creating a Title Page

14. Press **Ctrl+E** to center the text on the first line.
15. Click **Insert**, point to **Picture**, and select **WordArt**. The WordArt Gallery appears.

16. Select any style.

17. Click **OK**.

18. The Edit WordArt Text dialog box appears.

19. Type your project title.

20. Choose and **Font** and **Size**.

21. Click **OK**.

**Formatting the WordArt**

22. Right-click the **WordArt** and select **Format WordArt**. The Format WordArt dialog box opens.

23. Click the **Layout** tab.

24. Under **Wrapping Style**, select In line with text.

25. Click the **Colors and Lines** tab.

26. Under **Color**, click the drop-down arrow next to **Fill**.

27. Select **Fill Effects**.

28. Click the **Gradient**, **Texture**, or **Picture** tabs.

29. Select a **Gradient**, **Texture**, or **Picture**.

30. Click **OK** twice.

31. When a piece of WordArt is selected, the WordArt toolbar is open.
32. Click the **WordArt Shape** button on the WordArt toolbar.
33. Select a shape if you wish.
34. Press **Ctrl+End**.
35. Press **Enter** 7 times.
36. These spaces are set aside for a picture.
37. Click on the **Align Right** button on the **Formatting** toolbar.
38. Type your name.
39. Press **Enter**.
40. Type your partner’s name.
41. Press **Enter**.
42. Click **Insert** on the **Menu** bar and select **Date and Time**.
43. Select one of the **Available formats**.
44. Check **Update automatically**.
45. Press **Enter**.
46. Type Period, press the **Spacebar**, and type your period number.

**Creating a Table of Contents Page**

47. Click **Insert** on the **Menu** bar and select **Break**.
48. The Break dialog box opens.
49. Under **Section Break types**, select **Next page**.
50. Click **OK**.
51. You have now made a new page and a new section.
52. Click the mouse at the top of page 2.
53. The insertion point should be at the top of the page on the right side of the paper.
54. Press **Ctrl+E** to center the insertion point.
55. Press **Ctrl+2** to double-space your text.
56. Type Table of Contents.
57. Press **Enter** twice.

**Setting Tab Stops for the TOC**

58. Press **Ctrl+L** to left align the insertion point.
59. Type Statement of the Problem.
60. Press Tab.
61. Type 3.
62. Press Enter.
63. Type Results-Spreadsheet.
64. Press Tab.
65. Type 4
66. Press Enter.
67. Type Results-Graph.
68. Press Tab.
69. Type 5.
70. Press Enter.
71. Type Summary.
72. Press Tab.
73. Type 6.

74. Select all the text in the table of contents except for the title.
75. Click Format on the Menu bar and select Tabs.
76. Type 5.5 for the Tab stop position. This is the end of the page.
77. Under Alignment select Right.
78. Select the dotted Leader.
79. Click Set.
80. Click OK.

81. With the TOC text still selected, format the Font Type, Font Size, and Color the way you decided for your body text.

82. Select the title Table of Contents.
83. Format the Font Type, Font Size, and Color the way you decided for your title text.
84. Press Enter a few times at the end of your TOC.
85. Click Insert on the Menu bar, point to Picture, and select Clip Art.
86. The Clip Gallery opens.
87. Insert a picture into your TOC page.
88. Be selective—choose a picture that fits your topic. Use the Web link to the CLIPGALLERYLIVE if you wish. Experiment.
89. Press Ctrl+E to center your picture.
90. Change the Zoom box to Whole Page.
91. Use the Shift key and the resizing handles to change the size of your picture.
92. Make sure you only have one page for your Table of Contents.
93. Look at Figure 1
94. Change the Zoom box to 100%.
95. Press Ctrl+S to save your document.

Figure 1

Table of Contents

Statement of the Problem .................................................. 3
Results-Spreadsheet .......................................................... 4
Results-Graph ................................................................. 5
Summary ............................................................................. 6

Inserting a New Section and Page for the Statement of the Problem

96. Press Ctrl+End to go to the exact end of page 2.
97. The insertion point should be to the right of your picture.
98. Click Insert on the Menu bar and select Break. The Break dialog box opens.
99. Under Section break types, select Next page.
100. Click OK.
101. You should be at the top of page 3.
102. Press Ctrl+E to center the insertion point.
103. Press Ctrl+2 to double space.
104. Type Statement of the Problem.
105. Press Enter twice.
106. Press Ctrl+L to left align the insertion point.
107. Write a statement of the problem that explains what you are going to investigate.
   • Explain what you are trying to learn.
   • How you are going to collect your data?
   • Explain how you are going to represent your data.
   • What you predict the results will be?
   • Use specific details.

**Format the Text of the Summary of the Problem**
108. Format the **Font Type**, **Font Size**, and **Color** the way you decided for your body text.

**Select the Statement of the Problem Title**
109. Format the **Font Type**, **Font Size**, and **Color** the way you decided for your title text.
110. Look at Figure 1.

**Create the Results Page**
111. Press **Ctrl+End** to go to the end of page 3.
112. The insertion point should be to the right of your last sentence in the Statement of the Problem.
113. Click **Insert** on the **Menu** bar and select **Break**.
114. The Break dialog box opens.
115. Under **Section break types**, select **Next page**.
116. Click **OK**.
117. Press **Ctrl+E** to center the insertion point.
118. Press **Ctrl+2** to double space.
119. Type **Results**.
120. Press **Enter** three times.
121. You will paste your **spreadsheet** on this page.
122. Select the title **Results**.
123. Format the **Font Type**, **Font Size**, and **Color** the way you decided for your title text.
124. Click **Insert** on the **Menu** bar and select **Break**.
125. The Break dialog box opens.
126. Under **Section break types**, select **Next page**.
127. Click **OK**.
128. You will paste your **graph** on this page.

**Create the Summary Page**
129. Click **Insert** on the **Menu** bar and select **Break**.
130. The Break dialog box opens.
131. Under **Section break types**, select **Next page**.
132. Click **OK**.
133. Press **Ctrl+E** to center the insertion point.
134. Press **Ctrl+2** to double space.
135. Type **Summary**.
136. Press **Enter twice**.
137. You will type your summary here after you have completed your investigation.
138. Select the title **Summary**.
139. Format the **Font Type**, **Font Size**, and **Color** the way you decided for your title text.
140. Press **Ctrl+S**.

**Starting the Investigation**

141. Collect the data that you need for your investigation. Be sure to record carefully.
142. Start Excel.
143. Open your file, **My First Workbook**.
144. Click **Insert** on the **Menu** bar and select **Worksheet**.
145. Double-click the new sheet’s tab.
146. Give the new sheet tab a meaningful name.
147. Create a well-designed spreadsheet of your data and use formulas if it is required for the investigation.
148. Remember to stick to the colors and fonts of your Word report.
149. **Use repetition!**
150. Create a well-designed graph of your data using the Chart Wizard.
151. **What type of graph is correct for your type of investigation?**
152. **Be sure to include a Chart Title, Axis Titles, a proper Scale, and a Legend** if necessary.
153. Remember to stick to the colors and fonts of your Word report.
154. **Use repetition!**

<table>
<thead>
<tr>
<th>Room Observed</th>
<th>Number of Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haley's Bedroom</td>
<td>7</td>
</tr>
<tr>
<td>Upstairs Hall</td>
<td>9</td>
</tr>
<tr>
<td>Parent’s Bedroom</td>
<td>1</td>
</tr>
<tr>
<td>Mother’s Office</td>
<td>2</td>
</tr>
<tr>
<td>Playroom</td>
<td>3</td>
</tr>
<tr>
<td>Upstairs Bathroom</td>
<td>4</td>
</tr>
<tr>
<td>Roof</td>
<td>5</td>
</tr>
<tr>
<td>Kitchen</td>
<td>6</td>
</tr>
<tr>
<td>Dining Room</td>
<td>7</td>
</tr>
<tr>
<td>Living Room</td>
<td>8</td>
</tr>
<tr>
<td>Father’s Office</td>
<td>9</td>
</tr>
<tr>
<td>Garage</td>
<td>7</td>
</tr>
<tr>
<td>Outside</td>
<td>6</td>
</tr>
<tr>
<td>Foyer</td>
<td>5</td>
</tr>
<tr>
<td>Downstairs Hall</td>
<td>4</td>
</tr>
<tr>
<td>Downstairs Bathroom</td>
<td>2</td>
</tr>
<tr>
<td>Litter Box Area</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total Observations</strong></td>
<td><strong>82</strong></td>
</tr>
</tbody>
</table>

**Results**
155. Press Ctrl+S.

**Copying and Pasting Your Excel Spreadsheet into Word**

Word and Excel are programs that are part of Microsoft Office. They can be used together to complete a project. You are going to paste your Excel spreadsheet and graph into your Word report.

156. In Microsoft Word, open your file, **Excel Project**.
157. Scroll or use the **Page Down** key to move to page 4.
158. In Excel, open **My First Workbook** and click the sheet tab of your project spreadsheet.
159. Select the cells that contain your worksheet labels and data.
160. Press Ctrl+C to copy the cells. The “dancing ants” (**marquee**) tell you that the data has been copied.
161. Press the **Word** button on the **Taskbar** to make the file active.
162. On page 4, click before the last paragraph mark below the title **Results**.
163. Press Ctrl+V to paste your spreadsheet.
164. It is automatically converted into a Word **table**.
165. Design your table as you did with your Tables Project.
166. Make sure that it is attractively formatted and fits on one page.
167. Press Ctrl+S.

**Copying and Pasting Your Excel Chart into Word**

168. Press the **Excel** button on the **Taskbar** to make the file active.
169. Click the sheet tab of your project **chart**.
170. **Click on a blank area of the chart outside the plot area**.
171. Eight handles surround the chart.
172. Press Ctrl+C to copy the chart. The “dancing ants” (**marquee**) tell you that the chart has been copied.
173. Press the **Word** button on the **Taskbar** to make the file active.

**Copying and Pasting Your Excel Chart into Word**

174. Press the **Page Down** key to move to page 5.
175. Click before the first paragraph mark at the top of the page.
176. Press Ctrl+E to center the text.
177. Press Ctrl+V to paste your chart.
178. If you do not see the picture handles click on the chart once.

179. With the chart selected, hold the Shift key and resize the chart to fit page 5.

180. Press Ctrl+S.

181. Close your Excel Workbook.

182. You are done with it now.

183. Look at Figure 3.

If your Excel chart does not fit in the Word document very well, change Word’s Page Setup for page 5 only.

- Click File and select Page Setup.
- Click the Paper Size tab.
- Change the Orientation to Landscape.
- Next to Apply to, click the drop-down arrow and select Selected Sections.
- Click OK.

**Figure 3**

![Graph](image)

**Mapping an Animal's Movements**

**Writing Your Summary**

184. Scroll to the top of page 6 in your Word document.

185. Click before the third paragraph mark on the page.

186. Compose your summary.
187. Your summary should explain
- What did you learn from your investigation?
- Was your hypothesis correct?
- What could you do to improve your investigation?
- Did you have any unusual data or data that surprised you.

188. Press Ctrl+S to save.

**Setting-up a Header and Footer in a Multiple Page Document**

A **header** is information that appears at the top of every page. A **footer** is information that appears at the bottom every page. You are making a multiple page document. Therefore, except for the title page, your name should appear at the top of every page, and the report title and page number should appear at the bottom of every page.

189. Click any spot on page 2.

190. Check the **Status Bar**. It should tell you that you are on page 2 and that you have 6 sections.

191. Click **View** on the **Menu** bar and then select **Header and Footer**.

192. The **Header/Footer** toolbar will open. You will be in the **header** area of the document.

193. Press the **Same as Previous** button on the **Header and Footer** toolbar.

194. The button should not be pressed in.

195. This makes the Header for section 2 different from section 1.

196. Press Ctrl+R to Align Right your names.

197. Type your names.

198. Click the **fourth** button from the right on the **Header and Footer** toolbar.

199. This button will automatically switch you to the **footer** area of the document.

200. Press the **Same as Previous** button on the **Header and Footer** toolbar.

201. The button should not be pressed in.

202. This makes the Footer for section 2 different from section 1.

203. If you are not **Aligned Left** press Ctrl+L.

204. Type the **title** of your report.

205. Press the **Tab** key twice.

206. This will **Align Right** the insertion point.

207. Type **Page** and then press the **Spacebar** once.

208. Click on the **Insert page number** button on the **Header and Footer** toolbar.

209. This will automatically number your pages as you type.
210. Click the Close button on the Header and Footer toolbar.

211. Press Ctrl+S.

**Inserting a Picture on Your Cover**

212. Press Ctrl+Home to return to the beginning of the document.

213. Change the Zoom Box to 50%.

214. Move the insertion point to Line 5.

215. Press Ctrl+E to center the insertion point.

216. Click Insert on the Menu bar, point to Picture, and select Clip Art.

217. The Insert ClipArt dialog box opens.

218. Click the Clips Online button. The Clipgallerylive Web page will open.

219. Type keywords in search text box.

220. Click the File download arrow to download the clip to your clip gallery.

221. Insert the clip you downloaded.

222. Click on the picture. The picture is now selected.

223. Hold the Ctrl and Shift buttons down. This makes the picture resize perfectly around the center point.

224. Move the mouse over a corner-resizing handle.

225. Drag diagonally to resize the picture to the size you want.

**Warning! Do not move your heading information onto another page.**

**Final Formatting, Saving and Printing**

226. Click F7 to spell and grammar check your document.

227. Click the Print Preview button on the Standard toolbar.

228. Every page except for the cover should have a header and footer.

229. Press Ctrl+S to save your report.
230. Press the **F12** key. The Save As dialog box opens.

231. Print 2 copies to **Wales**.

**Backing-up Your Documents to your Personal Folder on Zeus**

232. Double-click your **period folder** to open it. You should see your Excel exercises and your project.

233. Press **Ctrl+A** to select all the documents.

234. Click the **Copy** button on the toolbar.

235. Close your period folder.

236. Double-click the **Network Neighborhood** icon.

237. Double-click **Wright-ms1** (Zeus) to open it.

238. Double-click the **Students 2004** folder.

239. Double-click your **personal folder**.

240. Click the **Paste** button on the toolbar.

241. Log-off and let your partner back-up Excel Exercises 1-8 and the Project to their personal folder.